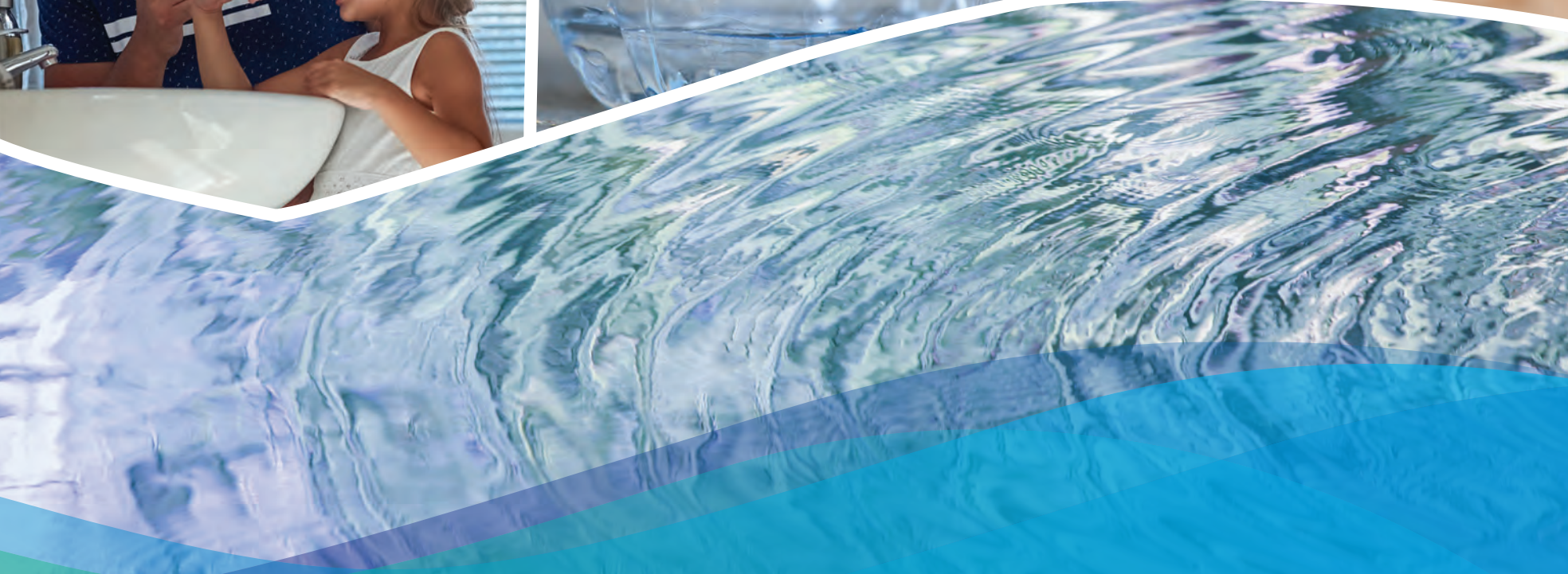




# Your 2017 Water Quality

CONSUMER CONFIDENCE REPORT

*Issued July 2018*



[www.emwd.org](http://www.emwd.org)

Eastern Municipal Water District

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## OUR MISSION

To deliver value to our customers and the communities we serve by providing safe, reliable, economical and environmentally sustainable water, wastewater and recycled water services.

## OUR VISION

To provide essential services to our community at a level that exceeds the performance of any other public or private agency.

EMWD wants you, our valued customer, to be confident that your drinking water is safe.

## OUR CONTINUING COMMITMENT TO YOU

EMWD and its trained, certified water quality professionals are committed to...

- Providing high quality, safe drinking water at the lowest price possible.
- Monitoring and testing the water we serve to optimize quality and ensure it is always safe to drink.
- Finding and developing new water supply sources to ensure continued reliability for our customers.
- Providing educated staff to answer any questions from our customers.

## Dear Valued EMWD Customer,

Eastern Municipal Water District (EMWD) is pleased to present its annual water quality report. Once again, we provided you with consistently high quality drinking water throughout 2017. This annual water quality report shows how EMWD continues to meet or surpass all drinking water quality standards established by the United States Environmental Protection Agency (USEPA) and the State Water Resources Control Board (State Board).

EMWD is committed to providing a safe, high quality and reliable water supply while protecting public health. Using state-of-the-art water treatment processes; efficiently maintaining and operating our facilities; and conducting rigorous monitoring and testing of the water we serve, EMWD is able to achieve high quality tap water. Water samples are collected throughout the year from EMWD's 29 drinking water sources to carefully test for 200 contaminants and impurities. In 2017, EMWD's laboratory personnel collected 7,316 water samples and performed 40,060 tests to monitor and ensure quality.

EMWD supports science-based standards that provide health benefits to the public in an economically balanced manner. While groundwater or surface waters can have trace contaminants, EMWD protects your health and safety by treating the water we deliver—ensuring your water meets or surpasses all regulated drinking water standards.

The State Board requires that EMWD customers receive an annual copy of this report which summarizes the results of water quality tests and provides specific details about sources and quality of the water served in your community. The guidelines for distributing this report allow for electronic delivery of the report instead of a paper copy in the mail. By delivering these reports electronically, we reduce costs and eliminate paper waste associated with printing and mailing the full report to our more than 145,000 accounts.

Please note that you may change your delivery preference at any time. We will be happy to provide you with a paper copy of this report upon request through our web site at [www.emwd.org/CCR](http://www.emwd.org/CCR) or by calling us at (951) 928-3777, extension 3430.

We strongly encourage you to read this report and if you have any water quality questions, please feel free to contact Michelle Karras, Senior Environmental Analyst, or any of our Water Quality staff at (951) 928-3777, extension 3327. We also encourage you to get the latest news and information from EMWD through our website at [www.emwd.org](http://www.emwd.org).

Thank you for being part of the EMWD family – we're here to serve you.



Paul D. Jones II, P.E.  
GENERAL MANAGER  
EASTERN MUNICIPAL WATER DISTRICT

*This annual water quality report contains important and useful information about the source(s) and the tests used to ensure the quality and safety of your drinking water. It also describes how EMWD meets all drinking water standards as set by the United States Environmental Protection Agency (USEPA) and enforced by the State Water Resources Control Board (State Board).*

## About Regulations

In order to ensure that tap water is safe to drink, the United States Environmental Protection Agency (USEPA) and the State Water Resources Control Board (State Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The United States Food and Drug Administration regulations and California law also establish limits for contaminants in bottled water that provide the same protection for public health.

### CONTAMINANTS THAT MAY BE PRESENT IN SOURCE WATER INCLUDE:

- **MICROBIAL CONTAMINANTS**, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock, and wildlife.
- **INORGANIC CONTAMINANTS**, such as salts and metals, can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- **ORGANIC CHEMICAL CONTAMINANTS**, including synthetic and volatile organic chemicals may be by-products of industrial processes or petroleum production, and can also come from gas stations, urban storm water runoff, agricultural application, and septic systems.
- **PESTICIDES AND HERBICIDES** may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- **RADIOACTIVE CONTAMINANTS** can be naturally-occurring or be the result of oil and gas production and mining activities.

### ABOUT NITRATE

Nitrate in drinking water at levels above 10 parts per million (ppm) is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of an infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 10 ppm may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should seek advice from your health care provider.

### SENSITIVE POPULATIONS

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised individuals such as those with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about their drinking water from their health care providers. USEPA and Centers for Disease Control and Prevention (CDC) guidelines on

appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.

### ARSENIC

While your drinking water meets the federal and state standard for arsenic, some of our sources do contain low levels of arsenic. The arsenic standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The USEPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

### UNREGULATED CONTAMINANTS

Unregulated contaminant monitoring helps USEPA and the State Board determine where certain contaminants occur and whether the contaminants need to be regulated.

### ABOUT LEAD AND COPPER

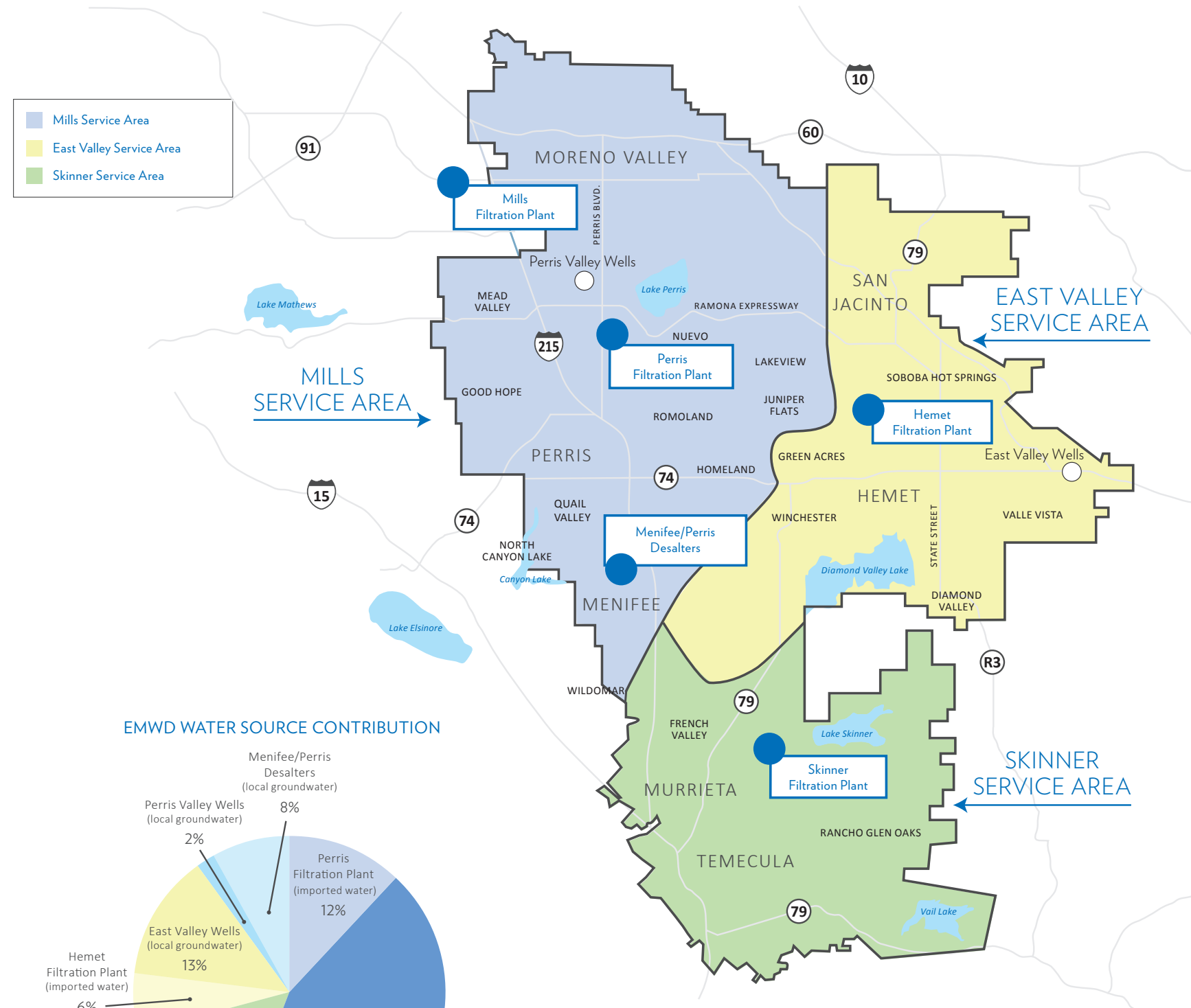
Lead and copper are rarely found in source waters; however, both of these metals can enter drinking water by leaching from household plumbing and fixtures. Water that sits in your pipes for long periods of time may dissolve tiny amounts of lead and/or copper (parts per billion levels) into household water. The USEPA has developed the Lead and Copper Rule to protect public health by establishing an action level of 15 parts per billion (ppb) for lead and 1300 ppb for copper.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. EMWD is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. If your water has been sitting in your household plumbing for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. *If you do so, you may wish to collect the flushed water and reuse it for another beneficial purpose, such as watering plants.* If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at (800) 426-4791 or at [www.epa.gov/lead](http://www.epa.gov/lead).

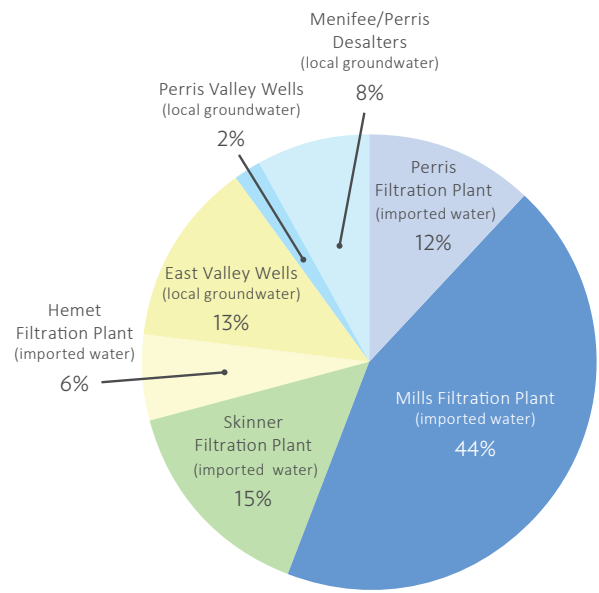
As part of the recent lead testing requirement, five schools in the San Jacinto Unified School District requested sampling for lead in 2017. Mandatory testing for lead in public schools began in 2018 and will continue through 2019. For more information visit [www.waterboards.ca.gov/drinking\\_water/certlic/drinkingwater/leadsamplingschools.html](http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/leadsamplingschools.html).

# THE SOURCES OF YOUR TAP WATER...

To help you find specific details about your tap water, we have organized this report according to the communities we serve.



EMWD WATER SOURCE CONTRIBUTION



Total Annual Water Usage: 26.1 billion gallons

## PROTECTING YOUR DRINKING WATER

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline at (800) 426-4791.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. The land that the water comes into contact with is called the watershed; everything that happens to or in the watershed can affect the quality of your drinking water supply.

EMWD uses several sources of water to serve its customers, including surface water from the Colorado River and the State Water Project (SWP), as well as local groundwater.

An initial assessment of all the watersheds, both surface water and groundwater, was completed in 2002. The Colorado River, a surface water source, was reassessed in 2010 and found to be most vulnerable to recreational activities, urban and storm water runoff, increasing urbanization in the watershed, and wastewater.

Water from the SWP, also a surface water source, was reassessed in 2011 and found to be most vulnerable to urban and storm water runoff, wildlife, agriculture, recreational activities, and wastewater.

An assessment of all EMWD wells was completed in 2013. Two sources were considered vulnerable to airports and airplane maintenance associated with a contaminant detected in the water supply. In addition, other EMWD wells were considered most vulnerable to the following due to proximity (not associated with any contaminants): commercial and industrial activities, residential activities, agriculture, and other activities such as recreation and transportation.

You can view vulnerability assessments on line at [http://www.waterboards.ca.gov/drinking\\_water/certlic/drinkingwater/DWSAP.shtml](http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/DWSAP.shtml) and then click on "Summary of Assessments." You can also call (951) 928-3777, ext. 3327 for a copy of EMWD's vulnerability assessments.

**Protecting the sources of drinking water helps protect our health. It's everyone's responsibility, and here are a few ways you can help:**

- Eliminate excess use of lawn and garden fertilizers and pesticides – they contain hazardous chemicals that can reach your drinking water source.
- Pick up after your pets.
- Dispose of chemicals properly; take used motor oil to a recycling center.

## THE COMMUNITIES WE SERVE...

**MILLS SERVICE AREA** | Water for this service area comes from a combination of sources:

- The Henry J. Mills Filtration Plant\* treats imported surface water supplied solely from northern California through the State Water Project (SWP). The Mills Filtration Plant adjusts the fluoride levels in the water to an optimal level recommended by the Centers for Disease Control and Prevention (CDC) for oral health, and uses chloramine for final disinfection.

WATER FROM THE MILLS FILTRATION PLANT IS BLENDED WITH SEVERAL OTHER EMWD WATER SOURCES:

- Two Perris Valley Wells serve a limited area of Perris – along Perris Boulevard south of the Ramona Expressway.
- The Perris Water Filtration Plant (PWFP) treats both Colorado River and SWP waters. This plant uses the latest ultrafiltration technology to remove particulate contaminants to produce quality, potable water. The PWFP serves Lakeview, Nuevo, Romoland, Homeland, and Juniper Flats. This plant uses chloramine for final disinfection.
- The Menifee and Perris Desalters convert salty groundwater into potable water using a reverse osmosis process. Menifee, North Canyon Lake, and Quail Valley are the only communities within the Mills Service Area to receive blended water from this desalination plant. The Menifee and Perris Desalters use chloramine for final disinfection.

### COMMUNITIES SERVED

Good Hope  
Homeland  
Juniper Flats  
Lakeview  
Mead Valley  
Menifee\*\*  
Moreno Valley  
North Canyon Lake  
Nuevo  
Perris  
Quail Valley  
Romoland  
Wildomar

**EAST VALLEY SERVICE AREA** | This service area is split into two regions:

WEST OF STATE STREET:

- The Hemet Water Filtration Plant (HWFP) treats both Colorado River and SWP waters. This plant uses the latest ultrafiltration technology to remove particulate contaminants and produce quality, drinking water. This treatment plant uses chloramine for final disinfection. Local groundwater also supplies this area.

EAST OF STATE STREET:

- A system of deep groundwater wells serves these communities. These wells are treated by adding free chlorine for final disinfection.

### WEST COMMUNITIES SERVED

Diamond Valley  
Green Acres  
Hemet  
San Jacinto  
Winchester\*\*\*

### EAST COMMUNITIES SERVED

Hemet  
San Jacinto  
Soboba Hot Springs  
Valle Vista

**SKINNER SERVICE AREA** | Water for this service area comes from:

- The Robert A. Skinner Filtration Plant\* treats water from the Colorado River and from the SWP. The Skinner Plant adjusts the fluoride levels in the water to an optimal level recommended by the CDC for oral health, and uses chloramine for final disinfection.

### COMMUNITIES SERVED

French Valley  
Menifee\*\*  
Murrieta  
Rancho Glen Oaks\*\*\*\*  
Temecula  
Winchester\*\*\*

\* The Mills and Skinner Filtration Plants are owned and operated by The Metropolitan Water District of Southern California (Metropolitan). \*\* Typically served by the Mills Filtration Plant and occasionally served by the Skinner Filtration Plant. \*\*\* Typically served by the Hemet Water Filtration Plant and occasionally served by the Skinner Filtration Plant. \*\*\*\* This area is served water produced by Rancho California Water District. (RCWD). You may view RCWD's Consumer Confidence Report on their website at [www.ranchowater.com](http://www.ranchowater.com).

# Facts about Total Coliform Bacteria

## Water agencies test for the presence of coliform bacteria as an indicator of drinking water quality.

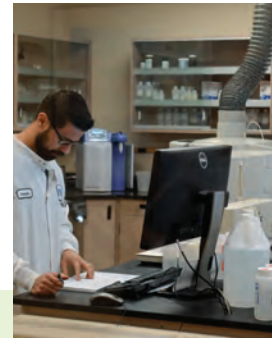
Coliform bacteria are naturally present in the environment and are generally not harmful. Coliform bacteria may occur in soil, vegetation, animal waste, sewage, and surface waters.

This Consumer Confidence Report (CCR) reflects changes in drinking water regulatory requirements during 2017. All water systems are required to comply with the state Total Coliform Rule. All water systems are also required to comply with the federal Revised Total Coliform Rule. The new federal rule maintains the purpose to protect public health by ensuring the integrity of the drinking water distribution system and monitoring for the presence of microbes (i.e. total coliform and E. coli bacteria). The USEPA anticipates greater public health protection as the new rule requires water systems that are vulnerable to microbial contamination to identify and fix problems. Water systems that exceed a specified frequency of total coliform occurrences are required to conduct an assessment to determine if any sanitary defects exist. If found, these must be corrected by the water system.

Eastern Municipal Water District routinely tests for the presence of coliform bacteria as an indicator of the sanitary quality of drinking water. EMWD analyzed 3,065 coliform samples in 2017, two of which were total coliform positive. The maximum allowed by EPA for coliforms is no more than 5 percent in any month. The highest monthly coliform result was 0.4 percent, which complies with this standard. EMWD also tests for E. coli bacteria, which indicate fecal or sewage contamination. Zero samples tested positive for E. coli in 2017.

A positive coliform test result does not necessarily mean a maximum contaminant level (MCL) has been exceeded, or that there is a problem in the water system.

More information and general guidelines on ways to lessen the risk of infection by microbes are available from the EPA's Safe Drinking Water Hotline at (800) 426-4791 or at <http://water.epa.gov/drink/info/>.



## ABBREVIATIONS

<b>AL</b> Action Level	<b>MRDLG</b> Maximum Residual Disinfectant Level Goal	<b>ppm</b> parts per million or milligrams per liter (mg/L)
<b>CFU/mL</b> Colony-Forming Units per milliliter	<b>MRL</b> Minimum Reporting Level: set by EPA for unregulated contaminant monitoring	<b>ppt</b> parts per trillion or nanograms per liter (ng/L)
<b>DLR</b> Detection Limits for purposes of Reporting: State-determined level that a test can detect the chemical	<b>NA</b> Not Applicable: no State or Federal standards are established	<b>RAA</b> Running Annual Average
<b>grains/gallon</b> grains per gallon: a measure of water hardness. One grain/gallon equals 17.1 ppm or mg/L	<b>ND</b> Non-Detected: sample was taken and chemical was not detected	<b>TON</b> Threshold Odor Number
<b>HPC</b> Heterotrophic Plate Count: a bacteriological test that counts the number of bacteria per milliliter of sample	<b>NL</b> Notification Level	<b>TT</b> Treatment Technique
<b>LRAA</b> Locational Running Annual Average	<b>NR</b> No Range: all result(s) were the same value	<b>µS/cm</b> microSiemens per centimeter; or micromhos per centimeter (µmho/cm)
<b>MCL</b> Maximum Contaminant Level	<b>NTU</b> Nephelometric Turbidity Units	<b>=</b> Equal
<b>MCLG</b> Maximum Contaminant Level Goal	<b>pCi/L</b> picoCuries per Liter	<b>&gt;</b> Greater than
<b>MRDL</b> Maximum Residual Disinfectant Level	<b>PHG</b> Public Health Goal	<b>&lt;</b> Less than
	<b>ppb</b> parts per billion or micrograms per liter (µg/L)	<b>≤</b> Less than or equal to
		<b>#</b> Number
		<b>%</b> Percent

## DEFINITIONS

**90th Percentile:** The value in a data set in which 90 percent of the set is less than or equal to this value.

**Disinfection By-Product:** Compounds which are formed from mixing of organic or mineral precursors in the water with ozone, chlorine or chloramine. Bromate, Total Trihalomethanes, and Haloacetic Acids are disinfection by-products.

**Locational Running Annual Average (LRAA):** The Running Annual Average (RAA) at one sample location.

**Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the Public Health Goals (PHGs) or Maximum Contaminant Level Goals (MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

**Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the USEPA.

**Maximum Residual Disinfectant Level (MRDL):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**Maximum Residual Disinfectant Level Goal (MRDLG):** The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**Notification Level (NL):** Notification levels are health-based advisory levels established by the State Board for chemicals in drinking water that lack MCLs.

**Primary Drinking Water Standard (Primary Standard):** MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

**Public Health Goal (PHG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

**Regulatory Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

**Running Annual Average (RAA):** The yearly average which is calculated every 3 months using the previous 12 months' data.

**Secondary Drinking Water Standard (Secondary Standard):** MCLs for contaminants that do not affect health but are used to monitor the aesthetics of the water.

**Treatment Technique (TT):** A required treatment process intended to reduce the level of a contaminant in drinking water.



## EASTERN MUNICIPAL WATER DISTRICT DISTRIBUTION SYSTEM DATA FOR 2017

Parameter	Units	State or Federal Maximum Contaminant Level (MCL)	California Public Health Goal (PHG)	State Detection Limit for Reporting (DLR)	Range / Average	EMWD's Entire Distribution System	SERVICE AREA		
							Mills	East Valley	Skinner
<b>PRIMARY STANDARDS - MANDATORY HEALTH-RELATED STANDARDS</b>									
<b>MICROBIOLOGICAL</b>									
Total Coliform Bacteria	# positive coliforms	A	MCLG = 0	NA	# positives in 2017 Highest monthly %	2 0.4	1 ---	1 ---	0 ---
Fecal Coliform Bacteria (E. coli)	# positive E. coli	B	MCLG = 0	NA	# positives in 2017	0	0	0	0
Heterotrophic Plate Count (HPC)	# HPCs > 500 CFU/mL	TT C	NA	NA	# HPC>500 in 2017 Lowest monthly %	4 99.2	3 ---	1 ---	0 ---
<b>DISINFECTION BY-PRODUCTS AND DISINFECTANT RESIDUALS</b>									
Bromate (Mills & Skinner plants only) D	ppb	RAA = 10	0.1	1.0	Range	---	ND - 7.8	---	ND - 12
					Highest RAA	---	3.2	---	4.1
Haloacetic Acids (5) (HAA5s) E	ppb	LRAA = 60	NA	E	Range	0 - 65	0 - 30	0 - 65	0 - 22
					Highest LRAA	40	19	40	9.4
Total Trihalomethanes (TTHMs) F	ppb	LRAA = 80	NA	1	Range	4.0 - 95	14 - 51	4.0 - 95	8.2 - 51
					Highest LRAA	66	41	66	25
Total Chlorine Residual Chlorine and Chloramines	ppm	MRDL = 4.0 as Cl <sub>2</sub>	MRDLG = 4 as Cl <sub>2</sub>	NA	Range	ND - 4.3	ND - 4.3	ND - 3.2	ND - 3.0
					Average	1.6	1.5	1.6	1.6
<b>METALS AS A BY-PRODUCT OF CORROSION OF CONSUMER'S PLUMBING G</b>									
Copper	ppb	AL = 1300	300	50	NA	90th percentile of 50 samples: 210 ppb   Zero samples exceeded the Action Level			
Lead	ppb	AL = 15	0.2	5	NA	90th percentile of 50 samples: <5 ppb   Zero samples exceeded the Action Level			
<b>SECONDARY STANDARDS - AESTHETIC STANDARDS H</b>									
<b>PHYSICAL PARAMETERS</b>									
Color	Units	15	NA	NA	Range	ND - 12	ND - 3	ND - 3	ND - 12
					Average	ND	ND	ND	ND
Odor Threshold	TON	3	NA	1	Range	NR	NR	NR	NR
					Average	1	1	1	1
pH	pH unit	6.5 - 8.5	NA	NA	Range	7.0 - 9.3	7.1 - 9.3	7.6 - 8.7	7.0 - 8.9
					Average	8.2	8.3	8.1	8.0
Turbidity	NTU	5	NA	0.1	Range	0.1 - 1.9	0.1 - 1.9	0.1 - 1.9	0.1 - 0.8
					Average	0.2	0.2	0.2	0.2
<b>UNREGULATED CONTAMINANT MONITORING I</b>									
Chlorate	ppb	NL = 800	NA	MRL = 20	Range	ND - 760	ND - 620	ND - 760	34 - 77
					Average	120	130	170	48
Total Chromium I	ppb	50	NA	MRL = 0.2 DLR = 10	Range	ND - 1.0	ND - 1.0	ND - 0.2	NR
					Average	0.1	0.3	ND	ND
Chromium-6 I	ppb	NA	0.02	MRL = 0.03 DLR = 1	Range	ND - 1.4	0.06 - 0.57	ND - 1.4	0.05 - 0.08
					Average	0.20	0.38	0.15	0.07
Molybdenum	ppb	NA	NA	MRL = 1	Range	ND - 15	ND - 11	2 - 15	ND - 11
					Average	4	3	5	3
Strontium	ppb	NA	NA	MRL = 0.3	Range	190 - 1000	190 - 820	220 - 390	750 - 1000
					Average	490	340	290	840
Vanadium	ppb	NL = 50	NA	MRL = 0.2	Range	ND - 20	2.7 - 16	2.1 - 20	NR
					Average	3.7	6.1	4.9	ND

The State Board allows EMWD to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Data presented is from sampling completed in 2017, unless otherwise indicated. Some of EMWD's data, though representative, are more than one year old.

EMWD supports science-based standards that provide health benefits to the public in an economically balanced manner. Should more stringent standards be set, EMWD will meet them. EMWD's water has met and will continue to meet all regulations.

Unregulated contaminant monitoring helps USEPA and the State Board determine where certain contaminants occur and whether the contaminants need to be regulated.

## FOOTNOTES

- A** Total coliform MCLs: No more than 5.0% of the monthly samples may be total coliform-positive. Compliance is based on distribution system samples. EMWD analyzed 3,065 coliform samples in 2017, four of which were total coliform positive. The highest monthly coliform result was 0.4%. The MCL was not violated in 2017.
- B** Fecal coliform/E. coli MCLs: An MCL violation is the occurrence of two (2) consecutive total coliform-positive samples, one of which contains fecal coliform or E. coli. There were zero detected fecal coliforms. The MCL was not violated in 2017.
- C** HPCs were tested only in distribution system samples which had no detectable chlorine residual. No less than 95% of all distribution system samples in one month may have no detectable chlorine residual and an HPC greater than 500 colony forming units per mL. The HPC results were no less than 99.2% in any month in 2017.
- D** Bromate is a disinfection by-product resulting from the use of ozone. Currently, the Mills and Skinner Filtration plants use ozone.
- E** DLR = 1.0 ppb for each Haloacetic Acid 5 (HAA5) analyte (dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid) except for monochloroacetic acid which has a DLR = 2.0 ppb. Locational running annual averages and ranges are calculated from 12 samples sites collected quarterly throughout the distribution system. HAA5s are a by-product of drinking water chlorination.
- F** Total Trihalomethanes (TTHMs) are the sum of the following analytes: bromodichloromethane, bromoform, chloroform, and dibromochloromethane. Locational Running Annual Averages (LRAA) and ranges are calculated from 12 sample sites collected quarterly throughout the distribution system. TTHMs are a by-product of drinking water chlorination.
- G** Lead and Copper are regulated as a Treatment Technique under the Lead and Copper Rule, which requires systems to take 50 water samples at the consumers' tap every three years. Results are from 2016. Neither lead nor copper are typically found in the source waters but can get into water by way of internal corrosion of household plumbing.
- H** Compliance for physical parameters is determined by the average, however all samples are reviewed and any values outside the compliance range are noted and corrected if possible. Values above the MCL may be acceptable so long as the average complies with the MCL.
- I** Unregulated contaminant monitoring spanned four consecutive quarters from 2013 to 2014. Total Chromium and Chromium-6 are regulated contaminants, however they were tested using reporting limits that were much lower than regulation as part of an unregulated contaminant rule. There is currently no MCL for hexavalent chromium. The previous MCL of 0.010 mg/L was withdrawn on September 11, 2017. Any results above the detection limit of 1 ppb is reported.

WE ARE REQUIRED TO MONITOR YOUR DRINKING WATER FOR SPECIFIC CONTAMINANTS ON A REGULAR BASIS.

RESULTS ARE AN INDICATOR OF WHETHER OR NOT YOUR DRINKING WATER MEETS HEALTH STANDARDS.

Parameter	Units	State or Federal Maximum Contaminant Level (MCL)	California Public Health Goal (PHG)	State Detection Limit for Reporting (DLR)	MENIFEE, MORENO VALLEY, NORTH CANYON LAKE, PERRIS & WILDOMAR				MURRIETA		HEMET & SAN JACINTO				Major Sources in Drinking Water				
					Mills Filtration Plant		Perris Valley Wells <sup>J</sup>		Perris Filtration Plant		Menifee and Perris Desalters		Skinner Filtration Plant			East Valley Wells		Hemet Filtration Plant	
Percent of total water delivered by EMWD	%				44%		2%		12%		8%		15%		13%		6%		
					Range	Average	Range	Average	Range	Average	Range	Average	Range	Average	Range	Average	Range	Average	
<b>PRIMARY STANDARDS-MANDATORY HEALTH-RELATED STANDARDS</b>																			
<b>CLARITY</b>																			
Combined Filter Effluent Turbidity	NTU and %	<sup>K</sup>	NA	NA	Highest NTU	% ≤ 0.3			Highest NTU	% ≤ 0.1			Highest NTU	% ≤ 0.1					Soil runoff
					0.08	100	---	---	0.32	99.87	---	---	0.10	100	---	---	0.4	99.76	
<b>ORGANIC CHEMICAL</b>																			
Trichloroethylene (TCE)	ppb	5	1.7	0.5	NR	ND	NR	ND	NR	ND	NR	ND	NR	ND	NR	ND	NR	ND	Discharge from metal degreasing sites and other factories
<b>INORGANIC CHEMICALS</b>																			
Aluminum	ppb	1000 <sup>L</sup> 200	600	50	ND - 85	93	NR	ND	NR	ND	NR	ND	NR	ND	NR	ND	NR	ND	Residue from water treatment process; natural deposits erosion
Arsenic <sup>M</sup>	ppb	10	0.004	2	NR	ND	NR	ND	NR	ND	NR	ND	NR	ND	NR	ND	NR	ND	Natural deposits erosion; runoff from orchards; glass and electronics production wastes
Barium	ppm	1	2	0.1	NR	ND	NR	0.3	NR	ND	NR	ND	NR	ND	NR	ND	NR	ND	Discharges of oil drilling wastes and from metal refineries; natural deposits erosion
Fluoride (Naturally-occurring)	ppm	2.0	1.0	0.1	---	---	NR	0.4	ND - 0.3	0.1	NR	ND	---	---	NR	ND	NR	ND	Erosion of natural deposits; discharge from fertilizer and aluminum factories
Fluoride (Treatment related) <sup>N</sup>	ppm	2.0	1.0	0.1	0.6 - 0.9	0.7	---	---	---	---	---	---	0.5 - 0.9	0.7	---	---	---	---	Water additive to promote strong teeth
Nitrate (as N)	ppm	10	10	0.4	NR	0.5	1.3 - 5.2	4.3	ND - 1.3	0.8	2.4 - 4.5	3.5	NR	ND	NR	ND	NR	ND	Runoff/leaching from fertilizer use; septic tank and sewage; natural deposits erosion
Perchlorate	ppb	6	1	4	NR	ND	NR	ND	NR	ND	NR	ND	NR	ND	NR	ND	NR	ND	Rocket propellant, fireworks, explosives, and industrial discharge; runoff/leaching from fertilizer use
Selenium	ppb	50	30	5	NR	ND	NR	ND	NR	ND	NR	ND	NR	ND	NR	ND	NR	ND	Runoff/leaching from livestock lots (feed additive), discharge from petroleum, glass and metal refineries; discharge from mines and chemical manufacturers; erosion of natural deposits
<b>RADIOLOGICALS</b>																			
Gross Alpha Particle Activity	pCi/L	15	MCLG = 0	3	ND - 4	ND	ND - 6	4	NR	ND	NR	ND	ND - 5	ND	NR	ND	NR	ND	Erosion of natural deposits
Gross Beta Particle Activity	pCi/L	50	MCLG = 0	4	NR	ND	NR	ND	NR	ND	NR	ND	NR	5	NR	ND	NR	ND	Decay of natural and man-made deposits
Uranium	pCi/L	20	0.43	1	ND - 4	2	1 - 4	2	NR	ND	NR	ND	1 - 2	2	NR	ND	NR	1.2	Erosion of natural deposits
<b>SECONDARY STANDARDS-AESTHETIC STANDARDS (CONTINUED ON PAGES 10-11)</b>																			
Chloride	ppm	500	NA	NA	30 - 41	36	NR	320	42 - 420	75	160 - 200	180	56 - 72	64	NR	ND	NR	ND	Runoff/leaching from natural deposits; seawater influence
Color	Units	15	NA	NA	NR	1	NR	ND	NR	ND	NR	ND	NR	1	NR	ND	NR	ND	Naturally-occurring organic materials
Iron	ppb	300	NA	100	NR	ND	NR	ND	NR	ND	NR	ND	NR	ND	NR	ND	NR	ND	Leaching from natural deposits
Manganese	ppb	50	NL = 500	20	NR	ND	NR	ND	NR	ND	NR	ND	NR	27	NR	ND	NR	ND	Leaching from natural deposits
Odor Threshold	TON	3	NA	1	NR	3	NR	1	NR	1	NR	1	NR	3	NR	1	NR	1	Naturally-occurring organic materials

FOOTNOTES

<sup>J</sup> Values are from blended Well 57 and raw well values from other wells in area. Well 57 is blended on site with Mills water to improve Total Dissolved Solids.

<sup>K</sup> The turbidity level of the combined filter effluent at the Mills and Skinner Filtration plants shall be less than or equal to 0.3 NTU in 95% of the measurements taken each month and shall not exceed 1 NTU at any time. For the Perris and Hemet Filtration plants, the turbidity level of the combined filter effluent shall be less than or equal to 0.1 NTU in 95% of the measurements taken each month and shall not exceed 1 NTU at any time. Turbidity is a measure of the cloudiness of the water and is an indicator of treatment performance.

<sup>L</sup> Aluminum has both primary (1,000 ppb) and secondary (200 ppb) standards (MCLs).

<sup>M</sup> While your drinking water meets the federal and state standard for arsenic, some of our sources do contain low levels of arsenic. The arsenic standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

<sup>N</sup> Metropolitan began fluoride treatment of water at Mills and Skinner Filtration plants in 2007. Fluoride is not added to the water in the East Valley Area.

The State Board allows EMWD to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Data presented is from sampling completed in 2017, unless otherwise indicated. Some of EMWD's data, though representative, are more than one year old.

EMWD supports science-based standards that provide health benefits to the public in an economically balanced manner. Should more stringent standards be set, EMWD will meet them. EMWD's water has met and will continue to meet all regulations.

Unregulated contaminant monitoring helps EPA and the State Board determine where certain contaminants occur and whether the contaminants need to be regulated.

Legend: 2013 - 2014 data (light blue), 2014 data (medium blue), 2014 - 2015 data (green)

Legend: ND - non-detected, NR - no range

# EASTERN MUNICIPAL WATER DISTRICT 2017 WATER QUALITY TABLE

WE ARE REQUIRED TO MONITOR YOUR DRINKING WATER FOR SPECIFIC CONTAMINANTS ON A REGULAR BASIS.

RESULTS ARE AN INDICATOR OF WHETHER OR NOT YOUR DRINKING WATER MEETS HEALTH STANDARDS.

Parameter	Units	State or Federal Maximum Contaminant Level (MCL)	California Public Health Goal (PHG)	State Detection Limit for Reporting (DLR)	MENIFEE, MORENO VALLEY, NORTH CANYON LAKE, PERRIS & WILDOMAR				MURRIETA		HEMET & SAN JACINTO				Major Sources in Drinking Water				
					Mills Filtration Plant		Perris Valley Wells <sup>J</sup>		Perris Filtration Plant		Menifee and Perris Desalters		Skinner Filtration Plant			East Valley Wells		Hemet Filtration Plant	
					Range	Average	Range	Average	Range	Average	Range	Average	Range	Average	Range	Average			
<b>SECONDARY STANDARDS-AESTHETIC STANDARDS (CONTINUED FROM PAGES 8-9)</b>																			
Specific Conductance	µS/cm	1600	NA	NA	278 - 307	292	1140 - 1530	1290	260 - 920	540	650 - 970	780	455 - 571	513	300 - 440	390	220 - 800	370	Substances that form ions in water; seawater influence
Sulfate	ppm	500	NA	0.5	26 - 39	32	NR	64	21 - 180	69	16 - 32	26	66 - 81	74	16 - 63	39	25 - 240	100	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (TDS)	ppm	1000	NA	NA	163 - 170	166	530 - 850	840	160 - 570	300	360 - 590	470	259 - 321	290	200 - 260	230	70 - 470	190	Runoff/leaching from natural deposits; seawater influence
Turbidity <sup>O</sup>	NTU	5	NA	0.1	NR	ND	NR	4.4 <sup>R</sup>	0.1 - 0.2	0.1	NR	0.1	NR	ND	0.1 - 0.7	0.2	0.1 - 1.4	0.2	Soil runoff
<b>UNREGULATED CONTAMINANT MONITORING <sup>I</sup></b>																			
Chlorate	ppb	NA	NL = 800	MRL = 20	ND - 33	22	ND - 170	55	110 - 150	120	68 - 620	340	34 - 77	48	ND - 760	200	82 - 170	140	Agricultural defoliant or desiccant; disinfection by-product; used in production of chlorine dioxide
Chromium-6 <sup>I</sup>	ppb	NA	0.02	MRL = 0.03 DLR = 1	0.18 - 0.57	0.34	0.44 - 1.3	0.97	0.06 - 0.11	0.08	0.12 - 0.16	0.14	0.05 - 0.08	0.07	ND - 1.4	0.23	0.06 - 0.09	0.07	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits
Molybdenum	ppb	NA	NA	MRL = 1	2 - 3	2	ND - 11	6	3 - 4	3	ND - 2	1	NR	4	3 - 15	7	2 - 3	2	Naturally-occurring element found in ores and present in plants, animals and bacteria; used in a chemical reagent
Perfluoroheptanoic Acid (PFHpA)	ppt	NA	NA	MRL = 10	NR	ND	ND - 22	ND	NR	ND	NR	ND	NR	ND	NR	ND	NR	ND	Manmade chemical; used in products to make them stain, grease, heat and water resistant
Perfluorohexanesulfonic Acid (PFHxS)	ppt	NA	NA	MRL = 30	NR	ND	ND - 120	38	NR	ND	NR	ND	NR	ND	NR	ND	NR	ND	Manmade chemical; used in products to make them stain, grease, heat and water resistant
Perfluorooctanesulfonic Acid (PFOS) <sup>Q</sup>	ppt	NA	NA	MRL = 40	NR	ND	ND - 82	ND	NR	ND	NR	ND	NR	ND	NR	ND	NR	ND	Surfactant or emulsifier; used in fire-fighting foam, circuit board etching acids, alkaline cleaners, floor polish, and as a pesticide
Perfluorooctanoic Acid (PFOA) <sup>Q</sup>	ppt	NA	NA	MRL = 20	NR	ND	ND - 53	ND	NR	ND	NR	ND	NR	ND	NR	ND	NR	ND	Used as surfactant or emulsifier in Teflon, fire-fighting foams, cleaners, cosmetics, greases and lubricants, paints, polishes, adhesives and photographic films
Strontium	ppb	NA	NA	MRL = 0.3	190 - 330	260	340 - 820	550	250 - 280	260	240 - 340	290	750 - 1000	840	220 - 390	310	240 - 290	260	Naturally-occurring element; historically used in production of cathode-ray tube televisions
Vanadium	ppb	NA	NL = 50	MRL = 0.2	3.6 - 5.4	4.2	4.4 - 16	12	3.3 - 5.3	4.5	2.7 - 4.4	3.6	NR	ND	2.7 - 20	7.2	2.1 - 2.9	2.5	Naturally-occurring; industrial waste discharge
<b>OTHER PARAMETERS</b>																			
Alkalinity (Total)	ppm	NA	NA	NA	41 - 55	48	NR	150	44 - 120	81	31 - 89	58	62 - 78	70	120 - 150	130	34 - 110	57	Naturally-occurring carbonates; measures water's ability to neutralize acid
Boron	ppb	NL = 1000	NA	100	NR	100	NR	620	77 - 220	130	150 - 860	420	NR	110	ND - 200	ND	ND - 220	100	Runoff/leaching from natural deposits; industrial wastes
Calcium	ppm	NA	NA	NA	13 - 14	14	NR	120	17 - 66	33	39 - 58	48	27 - 32	30	34 - 64	46	11 - 27	16	Naturally-occurring mineral
Hardness as Calcium Carbonate <sup>P</sup>	grains/gallon	NA	NA	NA	3.4 - 3.7	3.5	NR	25	3.9 - 15	7.8	7.6 - 12	9.3	6.4 - 7.5	7.0	5.5 - 11	7.6	2.6 - 7.6	4.1	Naturally-occurring; the sum of calcium and magnesium in the water
Magnesium	ppm	NA	NA	NA	6.1 - 7.5	6.8	NR	29	6.0 - 22	13	8.2 - 13	10	11 - 13	12	2.4 - 5.9	4.0	4.2 - 15	7.8	Naturally-occurring mineral
Sodium	ppm	NA	NA	NA	NR	32	NR	120	29 - 95	58	64 - 110	96	48 - 56	52	27 - 52	37	22 - 90	42	Naturally-occurring mineral

## FOOTNOTES

<sup>I</sup> Unregulated contaminant monitoring spanned four consecutive quarters from 2013 to 2014. Total Chromium and Chromium-6 are regulated contaminants, however they were tested using reporting limits that were much lower than regulation as part of an unregulated contaminant rule. There is currently no MCL for hexavalent chromium. The previous MCL of 0.010 mg/L was withdrawn on September 11, 2017. Any results above the detection limit of 1 ppb is reported.

<sup>J</sup> Values are from blended Well 57 and raw well values from other wells in area. Well 57 is blended on site with Mills water to improve Total Dissolved Solids. Well 59 data is from 2015 since we discontinued its use early in 2016 due to a new USEPA health advisory exceedance of PFOS and PFOA.

<sup>O</sup> Turbidity is a measure of the cloudiness of the water and is an indicator of treatment performance. Secondary standards were based either on the treatment plant effluent or raw well water.

<sup>P</sup> Water hardness, measured in grains per gallon as calcium carbonate, is characterized by the following scale: 0 - 4.4 is soft, 4.4 - 8.8 is moderately hard, 8.8 - 17.5 is hard and greater than 17.5 is very hard.

<sup>Q</sup> EPA has established the health advisory for a combined PFOA and PFOS concentration of 70 parts per trillion. EPA health advisories provide information on contaminants that may cause health effects or are anticipated to occur in drinking water but are non-enforceable and non-regulatory.

<sup>R</sup> Result from one raw well sample.

The State Board allows EMWD to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of EMWD's data, though representative, are more than one year old.

EMWD supports science-based standards that provide health benefits to the public in an economically balanced manner. Should more stringent standards be set, EMWD will meet them. EMWD's water has met and will continue to meet all regulations.

Unregulated contaminant monitoring helps EPA and the State Board determine where certain contaminants occur and whether the contaminants need to be regulated.

### ONE PART PER MILLION (PPM) IS LIKE

- 1 second in 11.6 days
- 1 teaspoon in 1,302 gallons
- 1 drop in 13.6 gallons

### ONE PART PER BILLION (PPB) IS LIKE

- 1 second in 31.7 years
- 1 teaspoon in 1.3 million gallons
- 1 drop in 13,563 gallons

### ONE PART PER TRILLION (PPT) IS LIKE

- 1 second in 31,710 years
- 1 teaspoon in 1.3 billion gallons
- 1 drop in 13,563,368 gallons



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## Your 2017 Water Quality

CONSUMER CONFIDENCE REPORT

*Issued July 2018*

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EMWD's Board of Directors meetings are generally held on the 1st and 3rd Wednesdays of each month beginning at 9:00 a.m.

If you wish to attend a meeting, please call the Board Secretary during normal business hours at (951) 928-3777, extension 4235 to confirm meeting dates or check the Board Meeting Calendar online at [www.emwd.org/BoardMeetings](http://www.emwd.org/BoardMeetings).

For more information on this report, contact: Water Quality (951) 928-3777, extension 3327 or visit [www.emwd.org/WaterQuality](http://www.emwd.org/WaterQuality).

## Why You Should Read This Report

THIS YEAR'S DRINKING WATER QUALITY REPORT...

- Examines how EMWD ensures your drinking water is safe, high quality, and reliable.
- Provides science-based data and facts about the sources, quality, and safety of your drinking water.
- Explains how customers can always choose how they wish to receive future water quality reports.

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